UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,178	05/05/2005	Josef Beck	18677	9983

23389 7590 05/01/2009

SCULLY SCOTT MURPHY & PRESSER, PC
400 GARDEN CITY PLAZA
SUITE 300
GARDEN CITY, NY 11530

EXAMINER	
KASTURE, DNYANESH G	

ART UNIT	PAPER NUMBER
3746	

MAIL DATE	DELIVERY MODE
05/01/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/534,178	BECK, JOSEF	
	Examiner	Art Unit	
	DNYANESH KASTURE	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6-11 and 13-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6-11 and 13-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The previously made 112 2nd paragraph rejections of Claims 1-4, 6-7, 8-14 are hereby withdrawn in view of amendments to the claims submitted on 24 February 2009.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 6-11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berthold et al (US Patent 4,920,856 A) in view of Neff (US Patent 4,271,868 A) and further in view of Perstnev et al (US Patent 6,024,541 A)

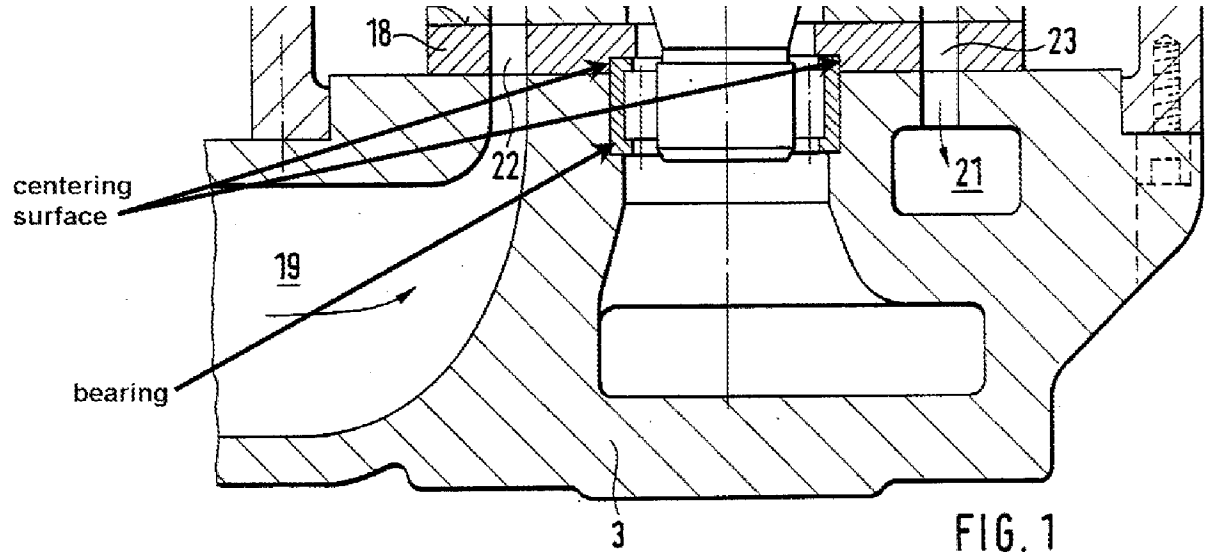


FIG. 1

4. In Re claim 1, with reference to the excerpt of Figure 1 depicted above, Berthold et al discloses a control plate (18) for an axial piston machine (title) having at least two control openings (22, 23), by means of which cylinder bores (12) of a cylinder drum (9) rotatably mounted in a housing (2, 3) are alternately connected, on rotation of the cylinder drum, to a high-pressure connection (21) and a low-pressure connection (19), a through-opening (for shaft 8) being formed in the control plate, wherein a radially inner edge of the control plate is designed as a centering surface (annotated above) which centers the control plate on a centering body (bearing as annotated above) on the housing (3)

5. However, Berthold et al does not disclose a plurality of partial surfaces separated by recesses.

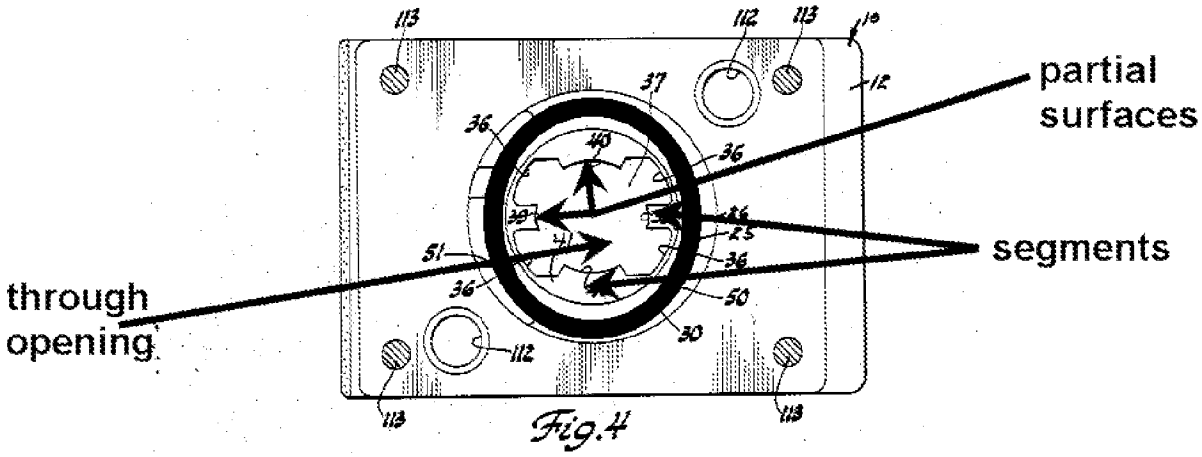


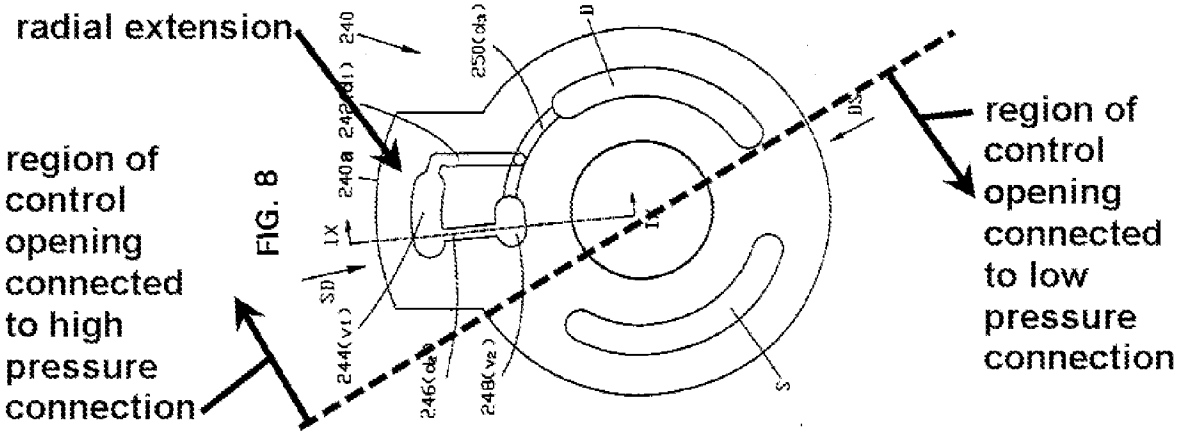
Fig.4

6. Nevertheless, with reference to Figure 4 annotated above, Neff discloses a plurality of partial surfaces (39, 40) formed on segments of the inner edge of shoulder (25), which extend radially inwardly as depicted into the through opening for "shaft" (39), the segments are separated by recesses (36). Note that the centering surface of Berthold et al and the partial surfaces formed on the segments of Neff are ALIGNMENT

surfaces that position two elements relative to one another, therefore the teachings of Berthold et al and Neff would be considered analogous art.

7. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the centering surface of Berthold et al so it comprises a plurality of segments with recesses as an alternate design choice that secures the bearing and port plate for the purpose of accommodating imperfections, if any, in the outer surface of the bearing because there are fewer contact surfaces.

8. Berthold et al modified by Neff discloses all the claimed limitations except for a radial extension formed only in the high pressure region control opening.



9. Nevertheless, with reference to Figure 8 depicted above, Perstnev et al discloses a control plate (30) with control opening (D) and a “bulging portion” (Column 3, Line 11) in a radial direction formed at an outer edge of the control plate only in the region of the at least one control opening plate (as evident from the annotations) that is connected to the high-pressure connection (associated with “D”).

10. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the outer edge of the control plate of Berthold et al so it has a

bulging portion (radial extension) in the region of the control opening associated with the high-pressure connection as taught by Perstnev et al for the purpose of improving the achievement of noise reduction as stated in Column 1, Line 20 of Perstnev et al.

11. In Re Claim 2, Neff discloses four partial surfaces (39, 40) that are circumferentially distributed.

12. In Re Claim 3, Neff discloses that the recesses (36) form gaps around element (39) when fully assembled.

13. In Re claim 6, the axial thickness of the segments of Neff is smaller at the centering surface than where they are connected to the shoulder.

14. In Re claim 7, Berthold et al and Perstnev et al both disclose kidney shaped control openings.

15. In Re claim 8, Berthold et al discloses pistons (12) and a centering body (bearing as annotated above) connected to the housing.

16. In Re claim 9, Berthold et al and Neff as applied to claims 8 and 2 discloses all the claimed limitations.

17. In Re claim 10, Berthold et al discloses the cylinder drum is fixed against relative rotation on the shaft by swash plate (13), the shaft mounted on bearing (as annotated) on the control plate side which is centered on the outer race of bearing as depicted.

18. In Re claim 11, Neff as applied to claims 8 and 3 discloses all the claimed limitations since the radial extent of the individual recesses (36) is greater that the radial extent of the partial surfaces.

19. In Re claim 14, Berthold et al discloses that the cylinder drum rotationally slides over the control plate with kidney shaped openings. Figure 1 depicts that the sides of the cylinder drum are lined up with the control plate. Figure 2 depicts that the control plate is disk shaped. The bearing would also have to be disc shaped since it has an inner race which rotates with respect to the outer race.

20. In Re claim 15, Neff discloses four recesses around the segments. The limitation "IN ORDER TO receive a rotation-locking element" is an intended purpose/intended use limitation and does not distinguish the structure from the prior art. As stated in MPEP 2114 [R-1], third paragraph: "A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus"".

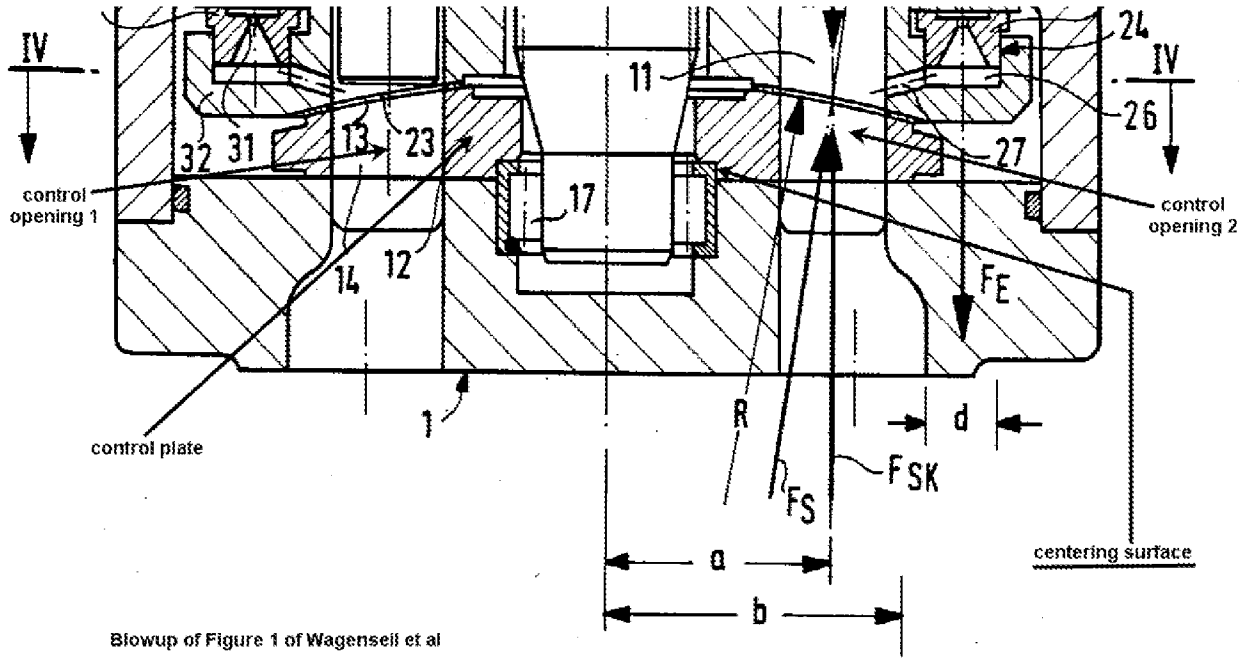
21. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berthold et al (US Patent 4,920,856 A) in view of Neff (US Patent 4,271,868 A) and in view of Perstnev et al (US Patent 6,024,541 A) and further in view of Tovey (US Patent 4,757,743 A)

22. In Re claim 13, Berthold et al, Neff and Perstnev et al as applied to claim 8 disclose all the claimed limitations except for the groove as claimed.

23. Nevertheless, Tovey depicts in Figure 1A that the interior of the control plate communicates with the space surrounding shaft (22) which further communicates with passageways (grooves) in the region on the side of the control plate facing away from the cylinder drum, the passageways further extending through elements (58) and (60) to passage leading back to the swash plate chamber (outside of the control plate) in the region of reference label "Ir' and "68", thereby connecting the inner volume to the outer volume.

24. It would have been obvious to a person having ordinary skill in the art at the time of the invention to form a passageway/groove as taught by Tovey in the region of a separating area of the control plate of Berthold et al which connects the inner edge area of the control plate to the outer edge area for the purpose of balancing pressures.

25. ALTERNATIVELY, Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagenseil et al (US Patent 4,602,554 A) and in view of Fisher et al (US Patent 6,252,321 B1) and further in view of Perstnev et al (US Patent 6,024,541 A)



Blowup of Figure 1 of Wagenseil et al

26. In Re claim 1, with reference to blowup of Figure 1, Wagenseil et al discloses a control plate (12) for an axial piston machine having at least two control openings (annotated), by means of which cylinder bores (11) of a cylinder drum (9) rotatably mounted in a housing are alternately connected, on rotation of the cylinder drum, to a high-pressure connection and a low-pressure connection, a through-opening (for shaft 4) being formed in the control plate (Column 4, Lines 25-30 state: "..control surface 13 of which has kidney-shaped control openings 14 which, as the cylinder 9 rotates, may or may not be covered by the piston bores 11 and therefore control, in the manner of valves, pump operation or motor operation of the axial piston machine 1"), wherein:

- the radially inner edge of the control plate is designed as a centering surface (annotated) which centers the control plate on a centering body (outer surface of bearing 17) on the housing.

27. However, Wagenseil et al does not disclose a plurality of partial surfaces separated by recesses and a further recess for a locking element.

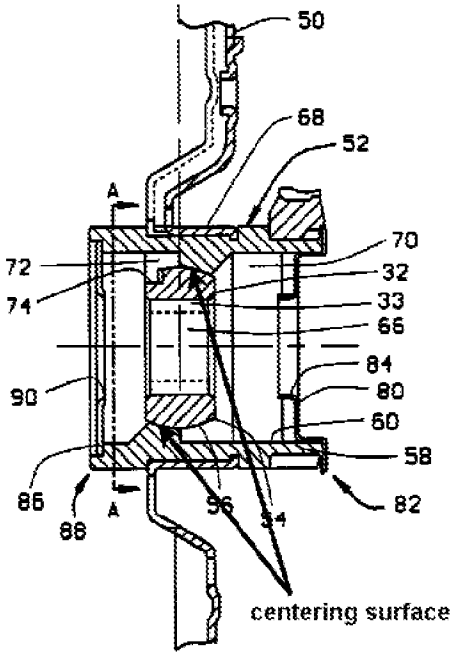


FIG. 2

Figures 2 and 3 of Fisher et al

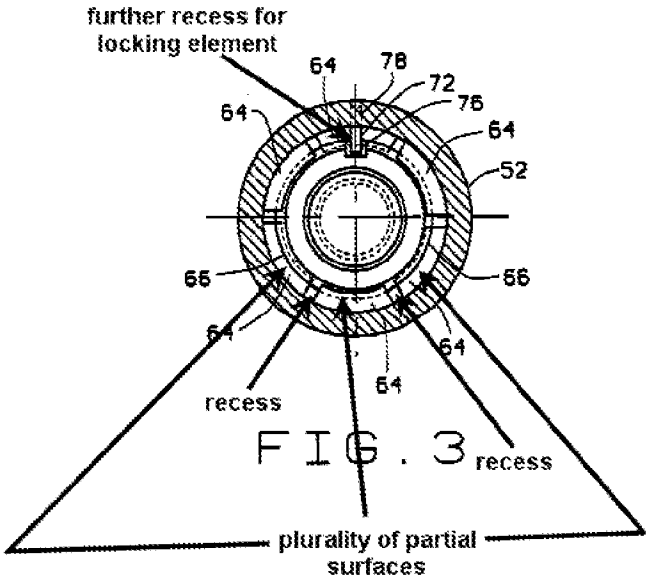


FIG. 3

28. Nevertheless, with reference to Figures 2 and 3 depicted above, Fisher et al discloses how housing element (52) is secured to the outer surface of bearing (32) by a plurality of partial surfaces (annotated) formed on segments (64) of the inner edge of the housing element (52), which extend radially inwardly into the through opening (33) and are separated by recesses (annotated) and a further recess (annotated) for receiving a rotation-locking element (72)

29. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the centering surface of Wagenseil et al so it comprises a plurality of segments with recesses and a further locking element recess as taught by

Fisher et al as an alternate design choice that secures the bearing and port plate, for the purpose of preventing the relative rotation between the port plate and the bearing.

30. Wagenseil et al modified by Fisher at al disclose all the claimed limitations except for a radial extension formed ONLY in the high pressure connection region control opening.

31. Nevertheless, Perstnev et al as discussed above, discloses that the radial extension formed ONLY in the high pressure connection region control opening.
It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the outer edge of the control plate of Wagenseil et al so it has a bulging portion (radial extension) in the region of the control opening associated with the high-pressure connection as taught by Perstnev et al for the purpose of improving the achievement of noise reduction as stated in Column 1, Line 20 of Perstnev et al.

32. In Re claim 8, Wagenseil et al discloses pistons (8) and a centering body (17) connected to the housing.

Response to Arguments

33. Note that the rejection involving Wagenseil et al and Fisher et al references is now an ALTERNATE rejection of claim 1. Nevertheless, applicant's argument that the two references are in different and unrelated technological fields is not persuasive

because the bearing surface of Wagenseil et al and the partial surfaces of Fisher et al are alignment surfaces that position two elements relative to one another, and are therefore analogous art. The same reasoning applies to applicant's arguments that in Fisher et al, it is the bearing is centered, not the centering housing itself. The bearing of Wagenseil et al is aligned with the inner surface of the control plate. Analogously, the bearing of Fisher et al is aligned with the partial surfaces of the housing.

Conclusion

34. Applicant's amendment of the independent claims, specifically the introduction of the word "only", necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DNYANESH KASTURE whose telephone number is (571)270-3928. The examiner can normally be reached on Mon-Fri, 9:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272 - 7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art Unit 3746

DGK